



August 26, 2024



The TXOGA Chartbook serves as an essential resource for our members and those keen on comprehending the data that narrate ongoing developments within the economy and the oil and gas sectors, both internationally and domestically, including specific trends in Texas.

Key points for the week of August 26, 2024

- **U.S. economic indicators steadied.** Following weaker signals in the previous week, consumer sentiment saw a slight rise from July in the University of Michigan's preliminary August survey. Business conditions, as measured by the ADS Index from the Philadelphia Federal Reserve Bank, stabilized in the latest weekly readings. Yields on high-yield corporate bonds fell by another 0.2% week-over-week (w/w) to 13.3%, while 30-day Fed Funds futures remained steady at 5.0%.
- **Oil market fundamentals tightened.** Global crude oil prices eased with the potential for a Gaza ceasefire agreement, which could reduce Middle East geopolitical tensions. However, U.S. crude oil inventories fell by 4.6 million barrels w/w due to solid demand and exports, more than offsetting record-high domestic crude oil production of 13.4 million barrels per day (mb/d), according to Energy Information Administration (EIA) data for the week ending August 16. Near-term futures prices near \$75 per barrel remain aligned with their historical mean.
- **As U.S. natural gas storage resumed increases, prices slipped.** Domestic natural gas prices had been supported by inventory withdrawals as of August 9, but prices fell to \$2.06 per million Btu (mmBtu) by August 23. This decline followed a strong 1.1% w/w increase in natural gas inventories, which reached 3.29 trillion cubic feet. Notably, U.S. natural gas inventories have steadily fallen relative to their 5-year range for seven consecutive weeks, and natural gas futures prices as of August 23 for December delivery were 54% higher than those for next month's delivery.
- **As highlighted in the [Chart of the Week](#), Texas oil and natural gas industry direct employment grew to 494,593, while industry wages eclipsed \$20.8 billion in Q1 2024,** according to data released this month by the Census Bureau and Texas Workforce Commission. These figures reflect 2.1% year-over-year (y/y) job growth and 6.5% y/y wage growth, indicating wage pressures amid a relatively tight labor market.

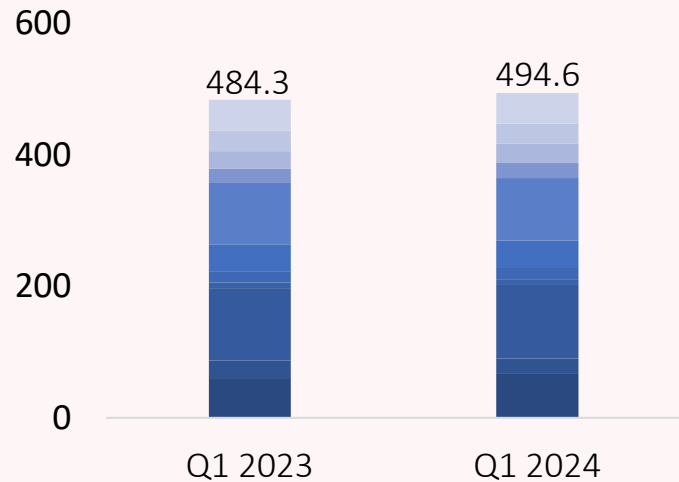
TXOGA Chart of the Week: Texas' oil and natural gas industry wages eclipsed \$20.8 billion in Q1 2024



- ▶ Texas' oil and natural gas industry employment and wages grew by 2.1% y/y and 6.5% y/y, respectively, in Q1 2024, raising the totals to nearly 494,593 jobs and \$20.8 billion in wages – the highest wages since the 2020 pandemic.
- ▶ Two-thirds of the year-over-year job growth occurred in the upstream and supporting services, while another quarter of the job growth occurred in pipeline transportation per the latest data (released on August 20, 2024) from the U.S. Census Bureau and Texas Workforce Commission.

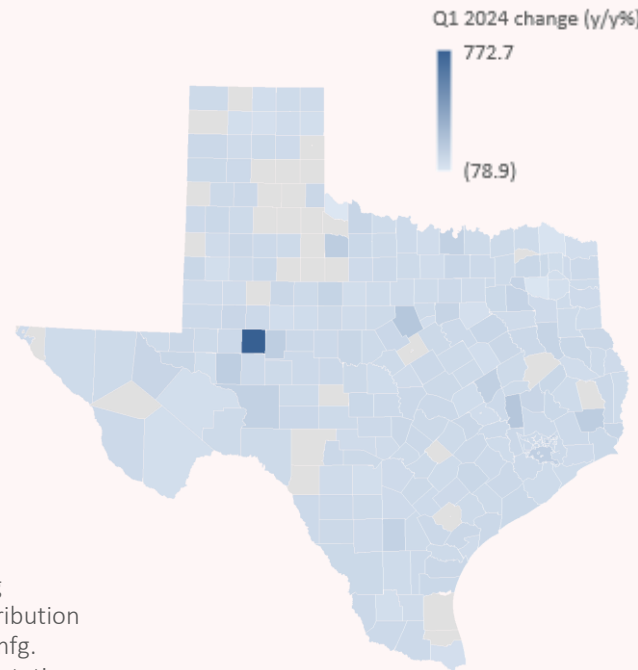
Texas oil and natural gas industry direct employment rose by +2.1% y/y in Q1 2024

Thousand Jobs



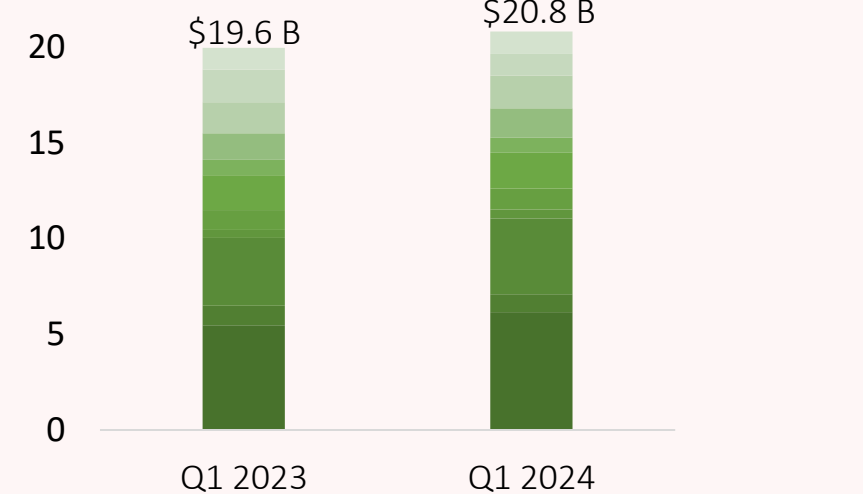
- Oil & gas extraction
- Support activities for o&g ops.
- Petroleum refineries
- Gas stations & fuel dealers
- All other*
- Pipeline construction
- Oil & gas drilling
- Natural gas distribution
- Petrochemical mfg.
- Pipeline transportation
- Oil & gas field mach. and eq. mfg.

* Other industry segments include petroleum and pet. product wholesalers, lubricant mfg., asphalt mfg., industrial sand mining, nitrogenous fertilizer mfg., basic organic chem. mfg., plastics and resin mfg.



Texas oil and natural gas industry direct wages rose by +6.5% y/y in Q1 2024

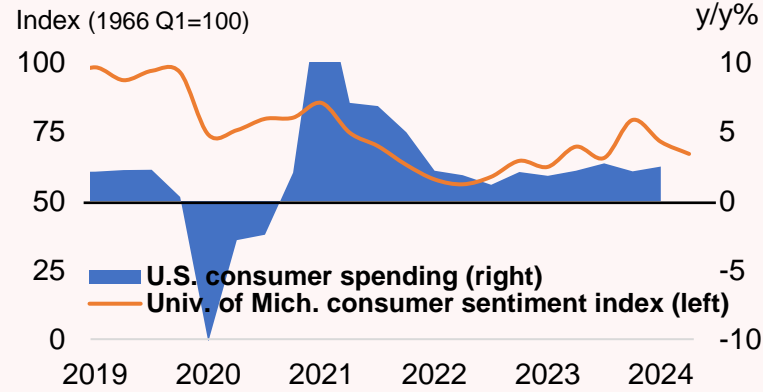
Billion dollars



- Pipeline construction
- All other*
- Gas stations & fuel dealers
- Petroleum refineries
- Support activities for o&g ops.
- Oil & gas extraction
- Oil & gas field mach. and eq. mfg.
- Pipeline transportation
- Petrochemical mfg.
- Natural gas distribution
- Oil & gas drilling

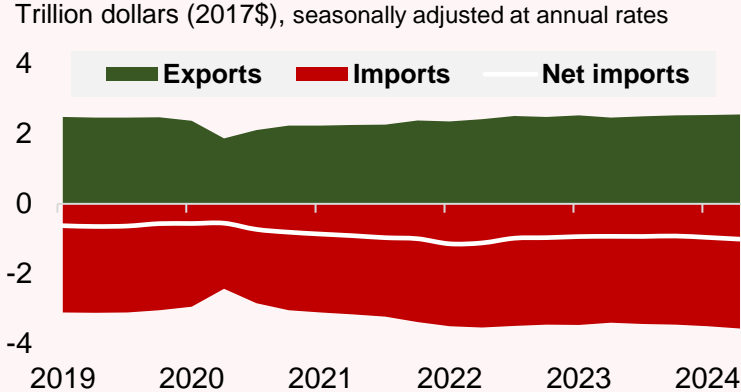
U.S. economic indicators

Consumer sentiment vs. spending



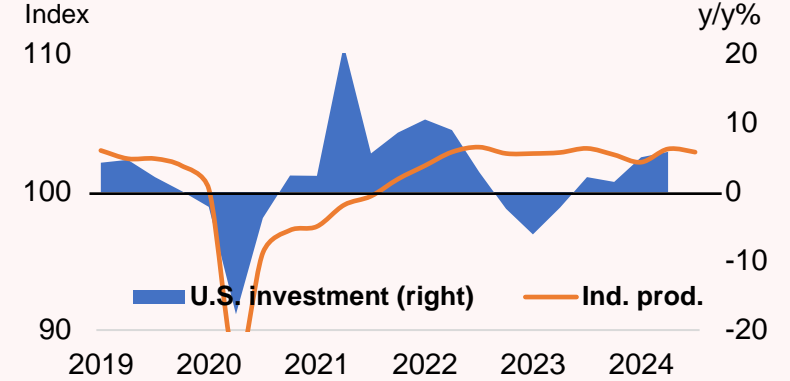
Consumer sentiment edged up in early August by 2.1% m/m, according to the University of Michigan's survey. This historically implies consumer spending growth for Q3 2024.

Real net exports of goods and services



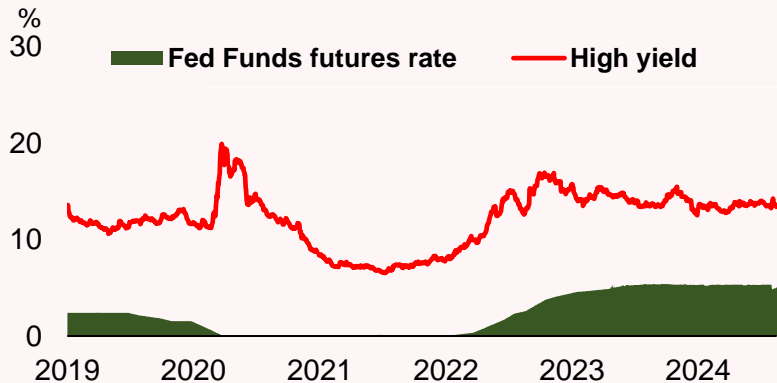
U.S. trade deficit widened in Q2 2024. The U.S. real trade deficit ran at an annualized rate of \$1.0 trillion in Q2 2024 per BEA, up from \$960B in Q1 2024. On a nominal basis, the trade surplus for petroleum and products fell to an annualized rate of \$27 billion in Q2 2024 (vs. \$52 billion in Q1).

Industrial production and investment growth



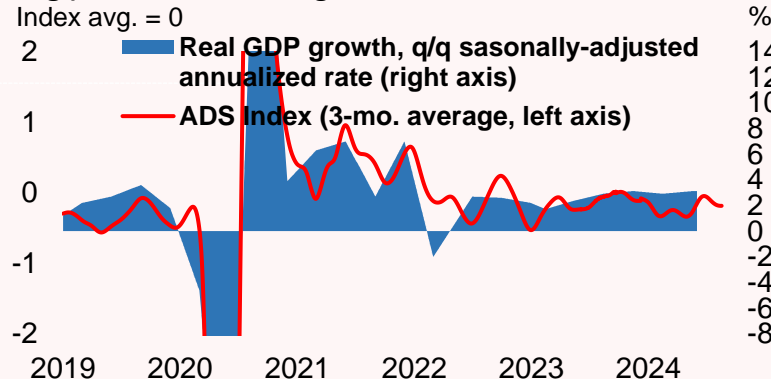
U.S. industrial production growth was revised down by 0.5% to 1.1% y/y in June and contracted by 0.2% y/y in July, per the Federal Reserve Board. The correlation of industrial production with economywide investment nevertheless remains consistent with investment growth in Q3 2024.

Fed Funds rate and CCC and lower corporate bond yields



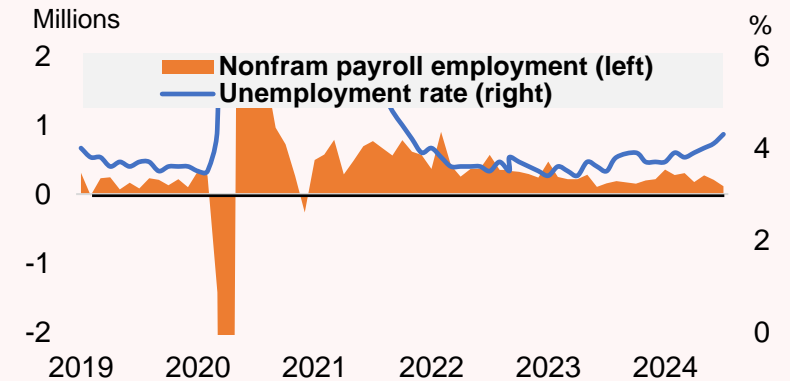
Decreased bond premium for low credit quality. High yield (HY) rates reflect debt costs for firms with below-investment grade credit quality. For the week ended Aug. 23, HY rates fell by 0.2% w/w to 13.3%, while Fed Funds futures rate held steady at 5.0%, resulting in a premium for low credit quality of 8.3%.

Aruoba-Diebold-Scotti Business Conditions Index (qtr. avg.) vs. U.S. real GDP growth



The ADS index stabilized. The ADS business conditions index, published by the Philadelphia Fed. Res. Bank, is a leading indicator of GDP growth. A rolling 3-month average of the ADS index has accurately reflected real GDP growth and, with readings as of August 23, remained consistent with further growth in Q3 2024.

Nonfarm payroll employment & unemployment rate

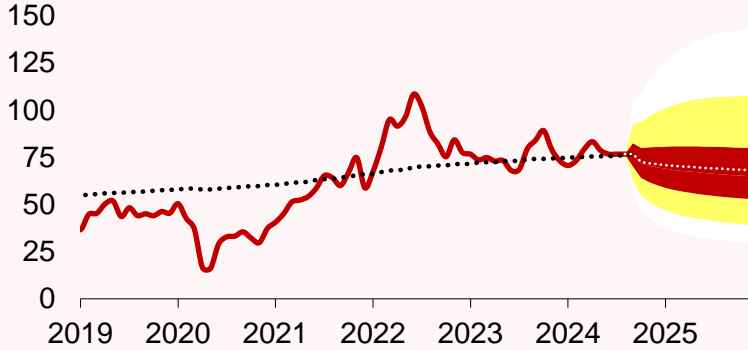


Labor market conditions weakened in July. The employment situation is a lagging indicator of GDP growth. The U.S. unemployment rate rose by 0.2% m/m to 4.3 in July per BLS, while non-farm payrolls increased by 114,000.

U.S. oil market indicators

WTI crude oil price mean reversion analysis

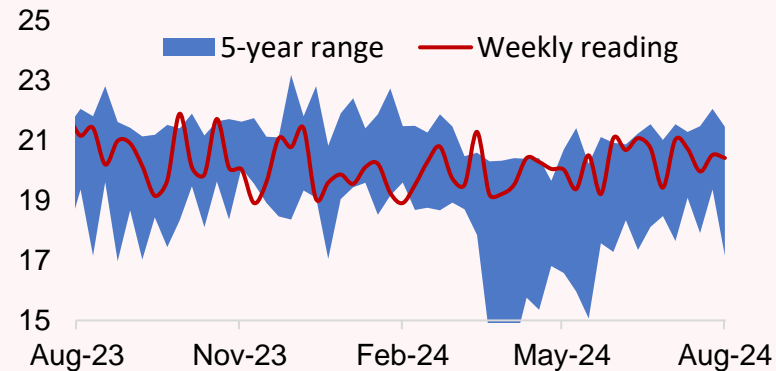
Dollars per barrel (2024\$)



Near-term futures prices have aligned with the historical mean reversion target. The futures strip remains backwardated (that is, futures prices currently are lower than spot prices). Confidence intervals based on past prices show the potential for greater upside than downside.

U.S. petroleum demand

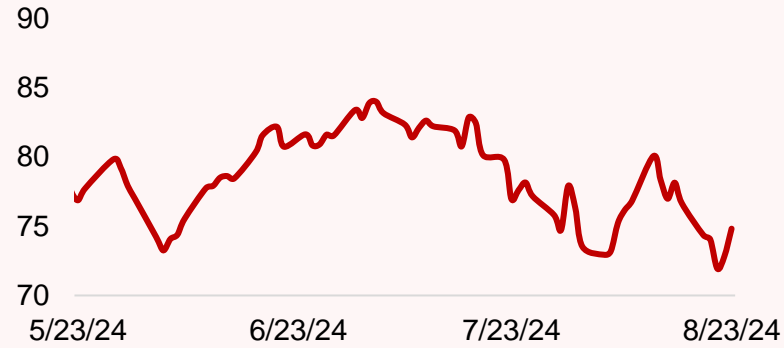
Million barrels per day (mb/d)



Petroleum demand decreased. U.S. petroleum demand, as measured by deliveries, fell by 0.1 mb/d w/w to 20.1 mb/d for the week ended Aug. 16 – top 25% within the 5-year range.

WTI crude prompt month futures prices

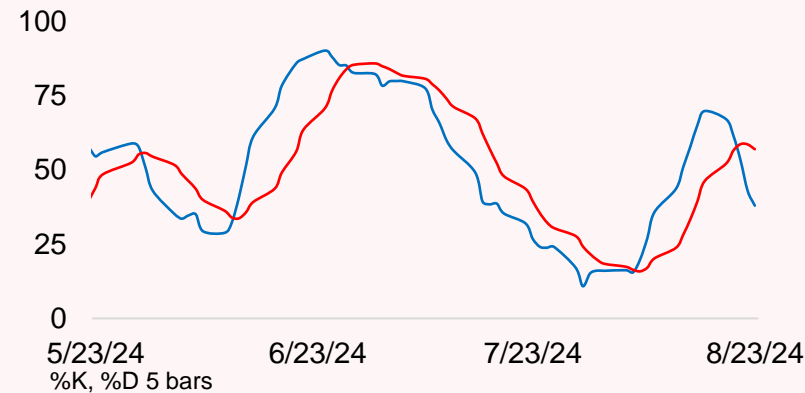
Dollars per barrel



WTI crude oil prices fell by \$3 per barrel w/w to \$74 per barrel as of August 23, as Middle East geopolitical uncertainties eased with the prospects for a Gaza ceasefire and aversion of broader regional conflict.

WTI crude prompt month futures slow stochastic

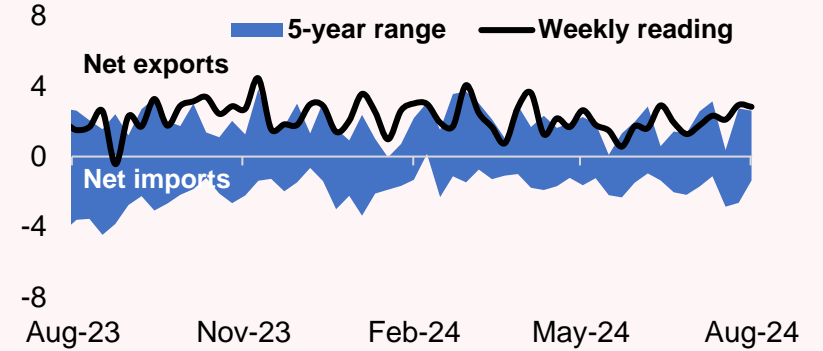
Index level



Price momentum rose and then turned down during the week ended Aug. 23.

U.S. petroleum net exports (imports)

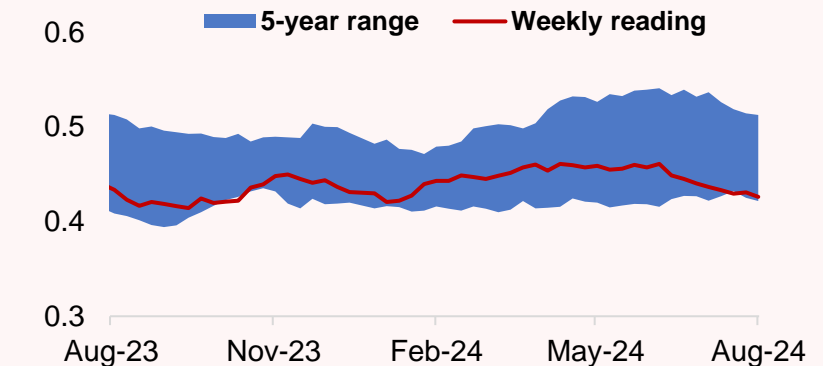
Million barrels per day, mb/d



Petroleum net exports fell. The U.S. was a petroleum net exporter of 2.8 mb/d for the week ended Aug. 16, up by 0.1 mb/d from the prior week.

U.S. ending stocks of crude oil (excluding the SPR)

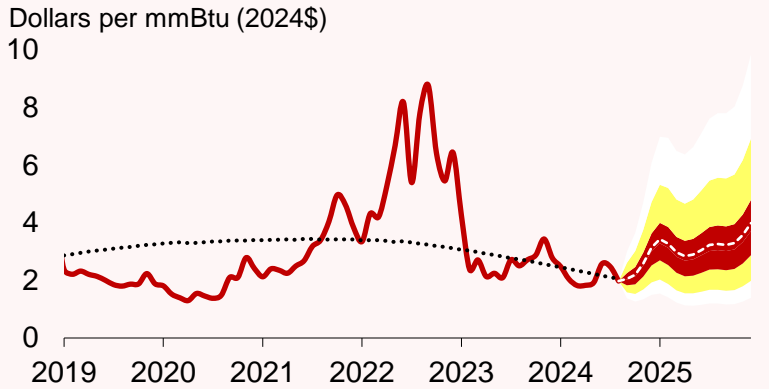
Billion barrels



Inventories decreased. U.S. ending stocks of crude oil excluding the Strategic Petroleum Reserve (SPR) decreased by 4.6 million barrels (mb) for the week ended Aug. 16.

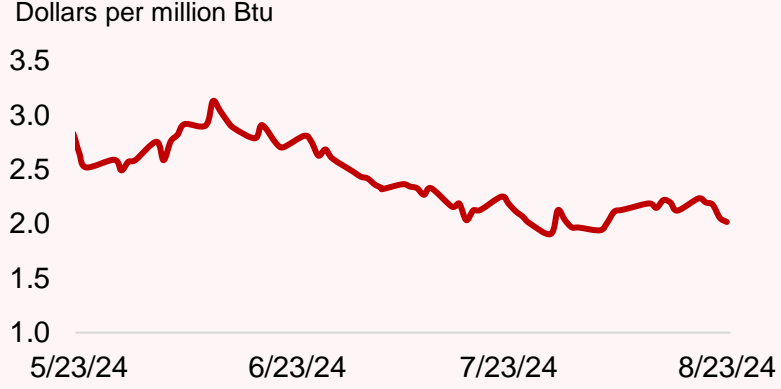
U.S. natural gas market indicators

Natural gas price mean reversion analysis



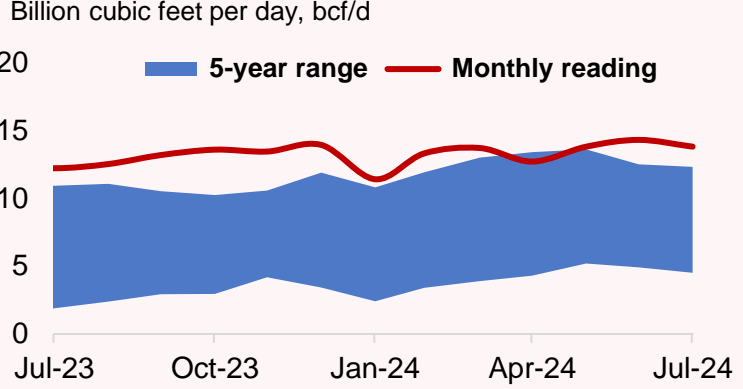
Near-term natural gas futures prices have aligned the historical mean reversion target but rise by 54% between the September and December contracts. Confidence intervals based on past prices show the potential for greater upside than downside.

Natural gas prompt month futures prices



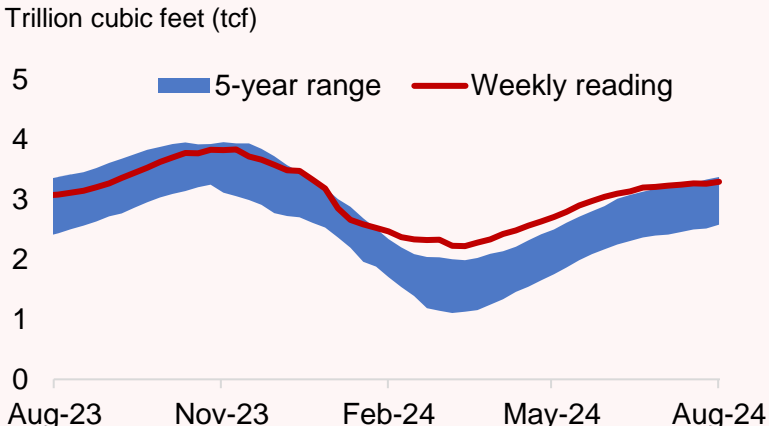
Natural gas prices at Henry Hub rose fell by 4.9% w/w to \$2.02 per million Btu for the week ended August 23.

U.S. natural gas net exports



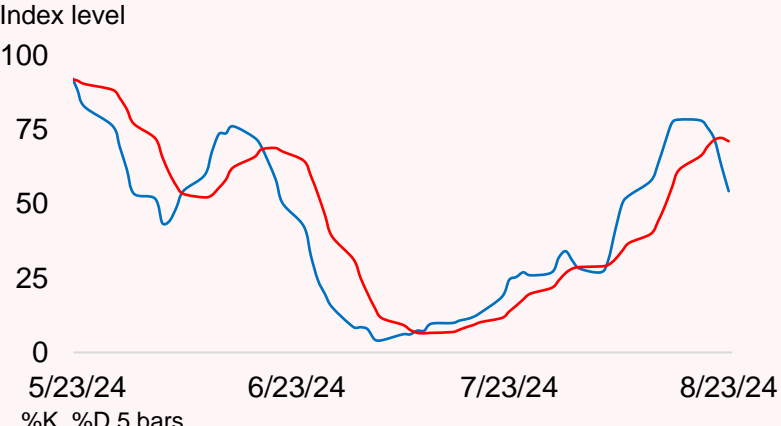
Strong natural gas net exports of 13.8 bcf/d projected in July by EIA, easing from a record-high 14.3 bcf/d in June.

U.S. weekly working gas storage



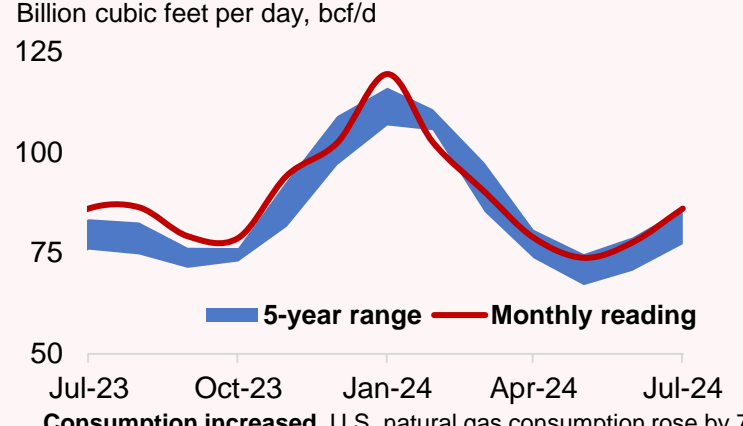
Storage continued to recede into the 5-year range. Working gas in underground storage rose by 1.1% w/w to 3.29 tcf as of Aug. 16 but fell to the 90th percentile within the 5-year range, down from above the 5-year range three weeks ago.

Natural gas futures slow stochastic



Natural gas price momentum rose and then turned down during the week ended Aug. 23.

U.S. natural gas consumption



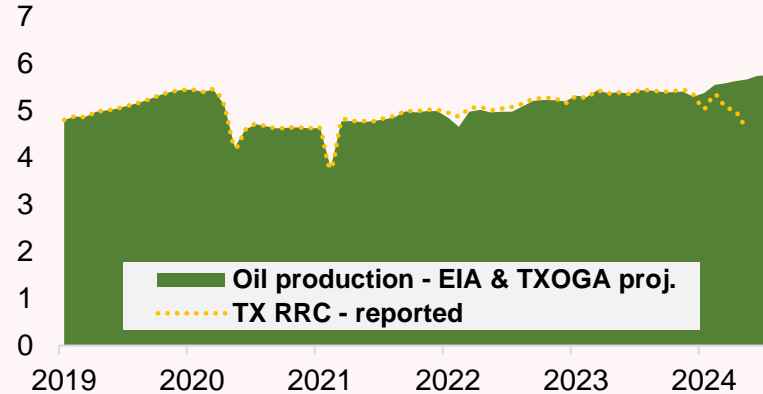
Consumption increased. U.S. natural gas consumption rose by 7.9 bcf/d m/m to 85.5 bcf/d in July per EIA, which represents a decrease of 0.6% y/y.



Texas' oil and natural gas production

Texas crude oil production, Jan. 2019 – July 2024

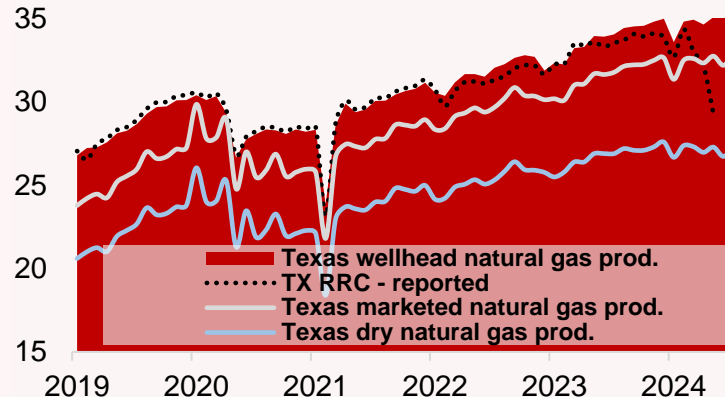
Million barrels per day (mb/d)



Record-high oil production. Texas' oil production rose to 5.67 mb/d in May per EIA, and TXOGA estimates that it exceeded 5.7 mb/d in July.

Texas natural gas production, Jan. 2019 – July 2024

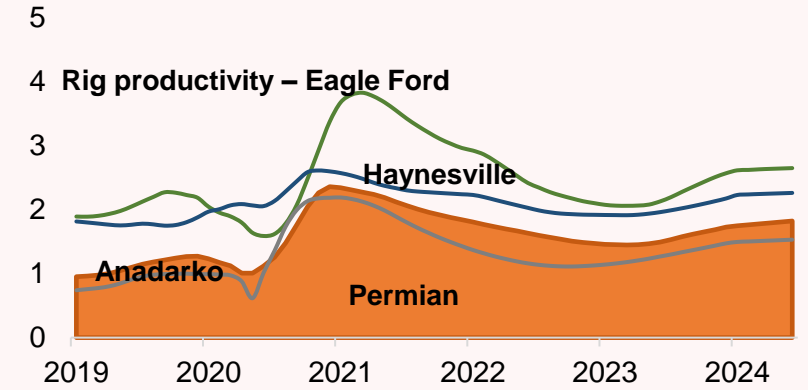
Billion cubic feet per day (bcf/d)



Record-high natural gas production. Texas produced record highs of 35.1 bcf/d of natural gas gross withdrawals and 32.7 bcf/d of marketed production in May per EIA. TXOGA estimates that Texas' marketed production fell to 32.2 bcf/d in July with 26.7 bcf/d of dry gas production.

Texas rig productivity by basin – new monthly prod. per rig

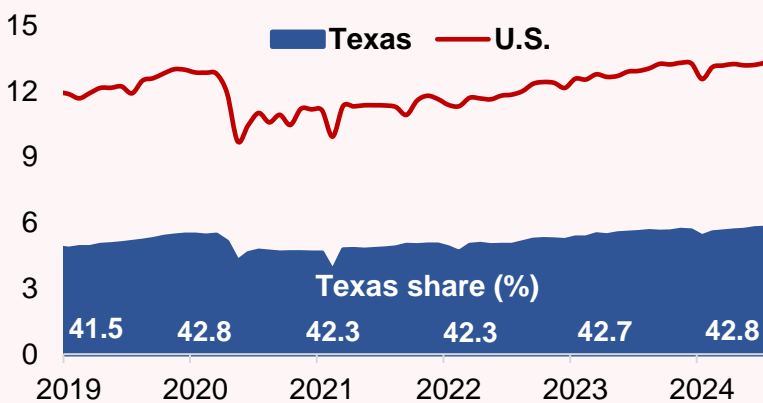
Thousand barrels per day oil-equivalent, kb/dae



Strong productivity to start the year. EIA estimates of rig productivity for June 2024 show continued increases year-over-year across the major Texas basins, including the Anadarko (+20.7% y/y), Eagle Ford (+24.5% y/y), Permian (+21.9% y/y), and Haynesville (+15.3% y/y).

U.S. and Texas crude oil production, Jan. 2019 – July 2024

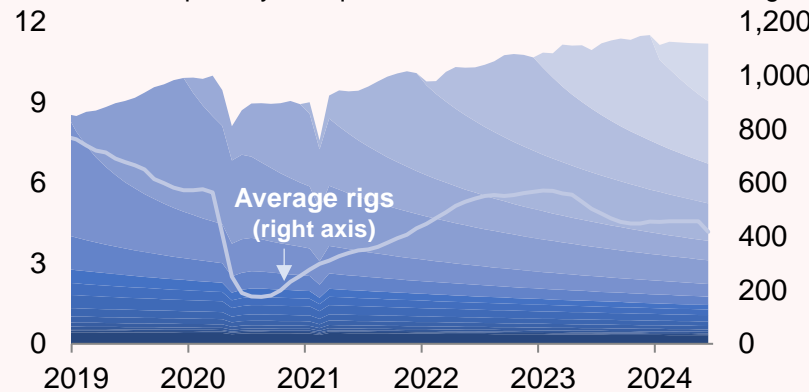
Million barrels per day (mb/d)



Texas' share increased. Texas accounted for an estimated 42.8% of U.S. crude oil production year-to-date through July by TXOGA's estimates.

Texas shale basin wellhead oil & natural gas production

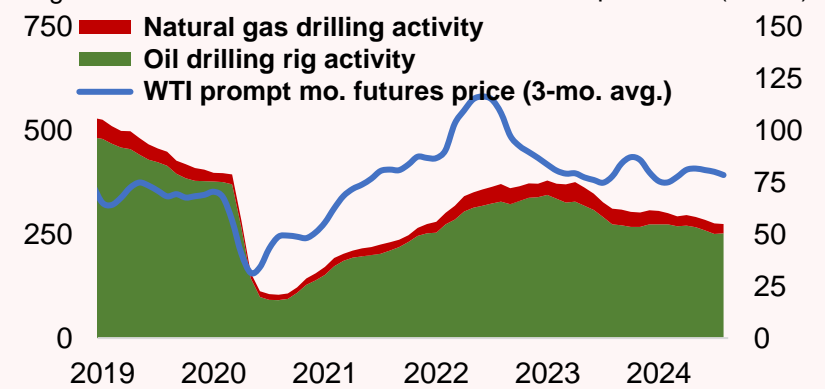
Million barrels per day oil-equivalent



EIA estimates June 2024 production growth across Texas shale basins has continued to grow year-over-year in the Permian (+9.2% y/y) but fallen in the Eagle Ford (-3.7% y/y), Haynesville (-6.8% y/y), and Anadarko (-1.8% y/y) regions.

Texas drilling activity and WTI crude oil futures prices

Rigs Dollars per barrel (2024\$)

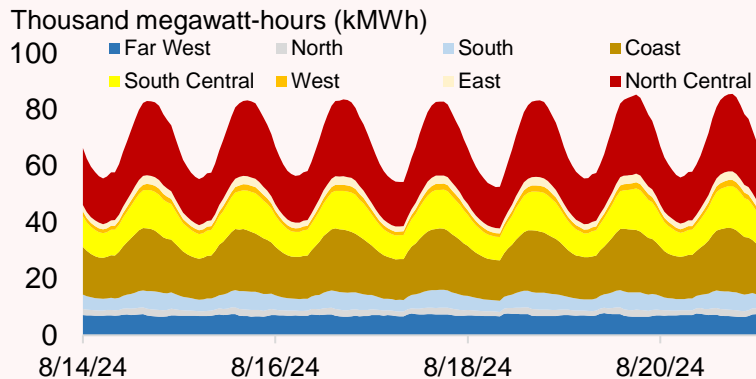


Texas' drilling rig activity rose for the week ended August 23 per Baker Hughes. Texas had 251 oil-directed rigs (up by 2 rigs w/w) and 23 natural gas-directed rigs (down by 1 rig w/w).

Texas Electricity Analysis

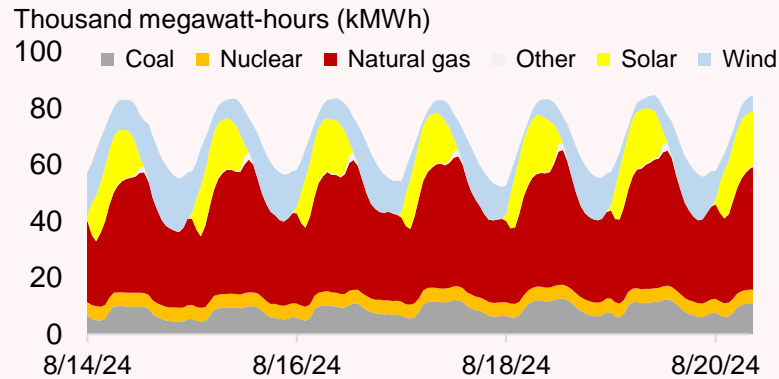


ERCOT electricity load by region



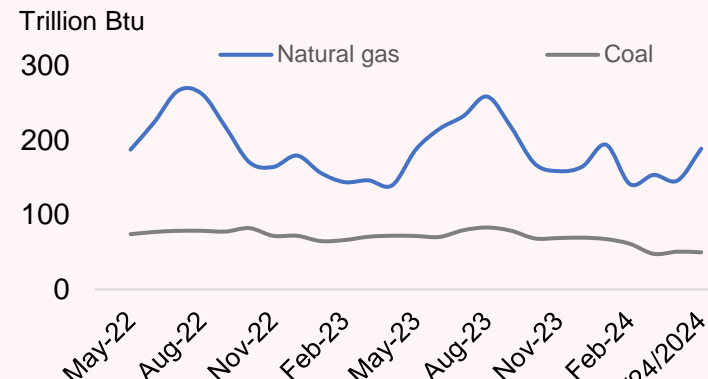
For Aug. 14 to 20, ERCOT's average hourly electricity load was 70.1 kMWh, up by 3.7% w/w, while the maximum load hourly load of 85.6 kMWh set a new record-high on August 20. Variability was the highest in the North Central and South Central regions.

ERCOT hourly electricity generation by source



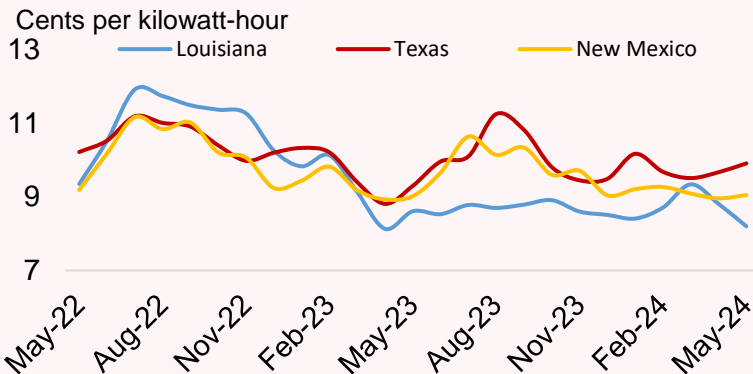
Thermal and dispatchable resources generated as much as 88.0% of ERCOT's electricity. ERCOT's hourly electricity generation for the period Aug. 14 to 20 ranged between 52 and 85 kMWh with a standard deviation of 10.4 kMWh, down by 0.8% w/w. Natural gas generated as much as 63.2% of the region's power during the period.

Electricity plant receipts of natural gas and coal



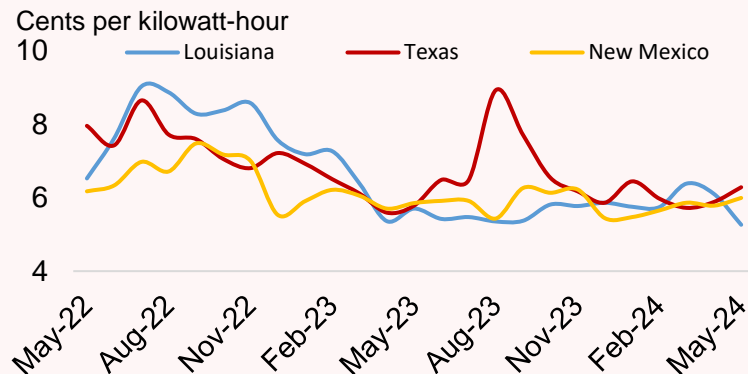
Texas electricity plant receipts of natural gas and coal decreased by 12.5% y/y and 29.4% y/y, respectively, in May 2024, despite strong contributions from thermal and dispatchable sources.

Electricity prices – average across all end-use sectors



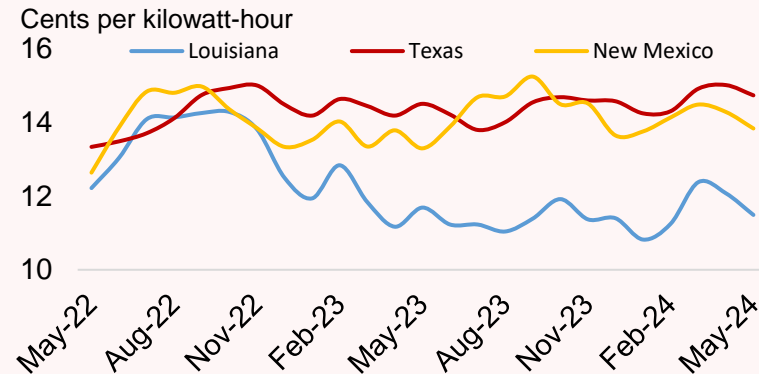
Texas' electricity prices rose in May. The average price of electricity in Texas (9.91 cents per kWh) increased by 6.6% y/y in May to 9.91 cents per kWh, compared with 8.2 cents per kWh in Louisiana and 9.05 cents per kWh in New Mexico.

Industrial electricity prices



Texas' industrial electricity prices increased. Texas' industrial electricity prices averaged 6.28 cents per kWh in May, up by 8.7% y/y, compared with 5.99 cents per kWh in New Mexico (up by 2.4% y/y) and 5.26 cents per kWh in Louisiana (down by 7.7% y/y).

Residential electricity prices



Texas' residential electricity remained above those of Louisiana and New Mexico. For Texas' residential consumers, the average price of electricity (14.74 cents per kWh) rose by 1.6% y/y in May and remained above those in Louisiana (11.49 cents per kWh) and New Mexico (13.84 cents per kWh).

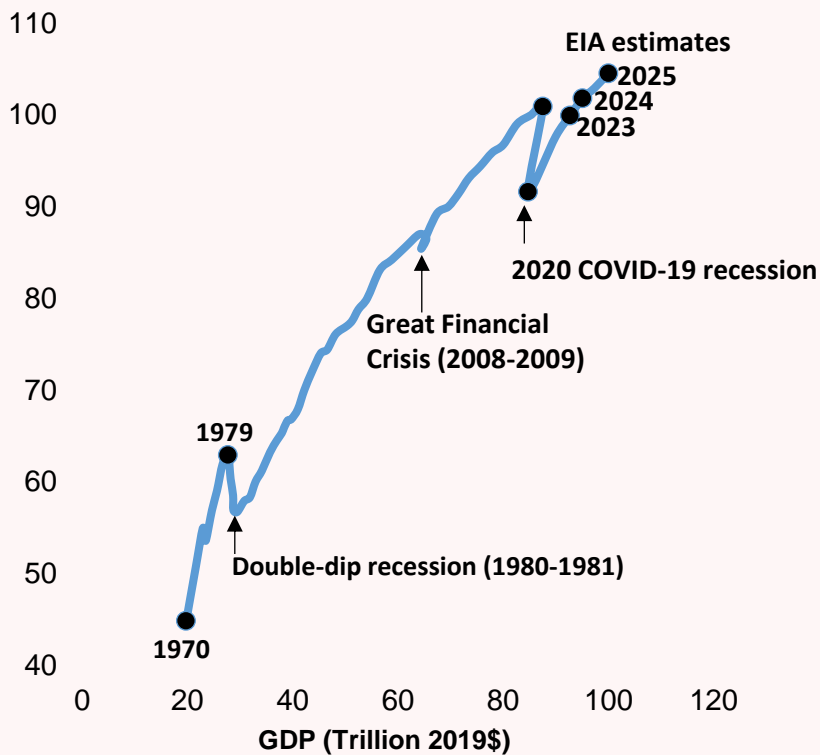
Global Oil Market Balance Projections to 2025



- **Solid demand and inventory drawdowns.** EIA's August 2024 Short-Term Energy Outlook projects global demand of 102.9 mb/d this year and 104.6 mb/d in 2025 – both record highs.
- **For oil inventories, EIA projects global stock withdrawals to continue through Q2 2025,** including 0.9 mb/d in Q3 2024 and as high as 1.0 mb/d in Q1 2025, corresponding with Brent crude oil prices of \$86 in Q4 2024 and on average in 2025, compared with \$81 per barrel currently.

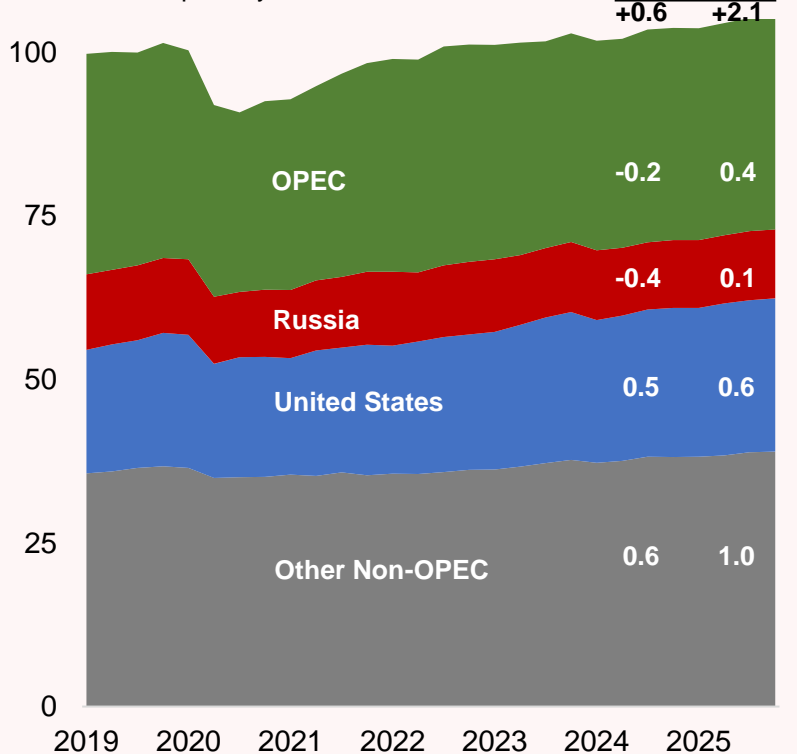
Global oil demand and GDP

Million barrels per day (mb/d)



Oil production by country/region

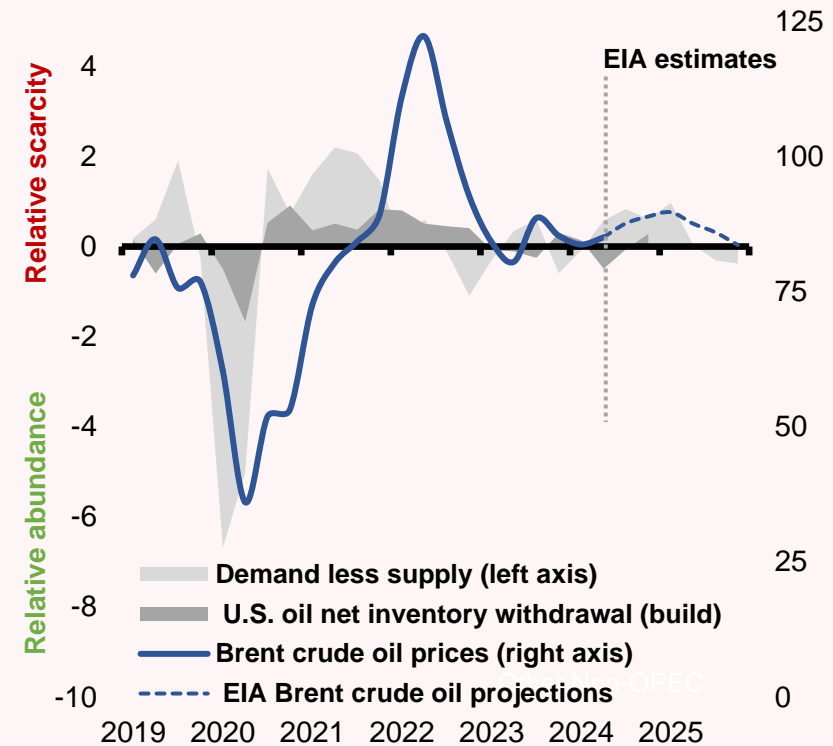
Million barrels per day, mb/d



Global demand/supply & Brent prices

Million barrels per day (mb/d)

2024\$/Bbl



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